

REMARKS

Upon entry of this amendment, claims and 1-27 are pending in the application, with claims 1, 7, 13 and 21 being in independent form. No new matter has been added by the amendments. Applicant respectfully requests reconsideration based on the remarks below.

Rejections of Claim 1-6 under 35 U.S.C. §103

Claims 1-6 stand rejected under 35 U.S.C. 103 as being obvious in view of U.S. Patent No 5,833,603 issued to Kovacs et al. ("Kovacs") combined with U.S. Patent No. 6,867,051 issued to Anderson et. al. ("Anderson"). Applicant respectfully traverses this rejection for reasons that follow.

Independent Claim 1

With respect to independent claim 1, claim 1 is patentable over Kovacs in view of Anderson because there is no suggestion or motivation to modify Kovacs to achieve the claimed invention based on the teachings of Anderson.

Kovacs discloses a sensor having light sources, dyes, and photodetectors. The sensor obtains a reading by exposing the dyes to light generated from the light source and then measuring the amount of fluorescence emitted from the dyes using the photodetectors. The Patent Office admits that Kovacs does not disclose using one of the photodetectors to determine the amount of ambient light. Instead, the Patent Office is relying on Anderson for this feature.

Anderson appears to disclose a system that takes two readings: a first reading when an LED is activated and a second when the LED is not activated so that the amount of ambient light can be measured. Anderson further discloses subtracting the second signal from the first to compensate for ambient light.

The Patent Office contends that it would have been obvious to a person of ordinary skill in the art to modify the system of Kovacs based on the teachings of Anderson. The contention lacks merit because there is no motivation or suggestion

to modify Kovacs based on Anderson. A person of ordinary skill in the art would not be motivated to modify Kovacs based on the teachings of Anderson because the accuracy of the system disclosed in Kovacs is not affected by ambient light. Accordingly, because ambient light does not affect the accuracy of system disclosed in Kovacs, there is no reason to modify the system to compensate for ambient light.

One reason why the accuracy of the Kovacs system is not affected by ambient light is because Kovacs employs “differential” sensing. That is, Kovacs puts dye on both the outside of the housing and the inside of the housing and measures the difference between the signal generated by the “outside” dye and the signal generated by the “inside” dye. Such an arrangement inherently compensates for ambient light because the photodetector that is used to measure light emitted from the “outside” dye and the photodetector that is used to measure light emitted from the “inside” dye are equally affected by the ambient light. Thus, by measuring the difference between the first photodetector and the second photodetector, the system automatically compensates for the ambient light.

Another reason why the accuracy of the Kovacs system is not affected by ambient light is because Kovacs employs filters “for allowing only fluorescent light to pass through the filters and reach photosensor 62 and 64 while shielding the photosensors from excitation and extraneous [e.g., ambient] light.” *Col. 10, lines 45-51*.

Because Kovacs uses differential sensing and employs filters for shielding the sensors from extraneous light, the system disclosed in Kovacs does not suffer from the presence of ambient light. Because ambient light does not affect the accuracy of the system disclosed in Kovacs there is no reason to modify the system according to the teachings of Anderson. Simply put, there is no suggestion or motivation to modify Kovacs based on Anderson. Thus, Applicant respectfully requests that the rejection of claim 1 should be withdrawn.

Dependent Claims 2-6

Claims 2-6 depend from claim 1. Thus, these claims are patentable for at least the reason given above with respect to claim 1.

Rejections of Claim 7-27 under 35 U.S.C. §103

Claims 27 stand rejected under 35 U.S.C. 103 as being obvious in view of Kovacs combined with U.S. Patent No. 5,672,881 issued to Striepeke et al. ("Striepeke"). Applicant respectfully traverses this rejection for reasons that follow.

Independent Claim 7

Claim 7 is patentable over Kovacs in view of Striepeke because the references, considered alone or in combination, do not teach or suggest all of the features of claim 7. For example, neither reference teaches or suggests:

- (a) illuminating the indicator molecules;
- (b) capturing a first signal output from the photodetector system, wherein said first signal is a function of the intensity of the light striking a photosensitive surface or surfaces of the photodetector system; [and]
- (c) after performing step (b) and while the indicator molecules are not being illuminated, capturing a second signal output from the photodetector system, wherein said second signal is a function of the intensity of the light striking a photosensitive surface or surfaces of the photodetector system;

as is required by claim 7.

The Patent Office correctly notes that Kovacs does not teach or suggest determining the amount of ambient light reaching the photodetector. However, the Patent Office contends that Striepeke makes up for the deficient teachings of Kovacs. The Patent Office's contention is wrong. Striepeke does not have anything at all to do with determining the amount of ambient light reaching the photodetector. Rather, Striepeke is concerned with determining a "darkfield value" for each pixel so that a "darkfield" corrected signal" can be generated. See *Col. 3, lines 10-16*. The darkfield value of a pixel is the amount of charge that is

accumulated by the pixel when the pixel is not exposed to ANY light. That is, even when a pixel is completely dark, the pixel may accumulate some charge. This amount of charge is the "darkfield value." Striepeke is concerned with compensating for this darkfield value. Striepeke is not at all concerned with the presence of ambient light. Accordingly, neither Striepeke nor Kovacs teach or suggest the method of claim 7.

Dependent Claims 8-12

Claims 8-12 depend from claim 7. Thus, these claims are patentable for at least the reason given above with respect to claim 7.

Independent Claim 13

Claim 13 is patentable over Kovacs in view of Striepeke because the references, considered alone or in combination, do not teach or suggest all of the features of claim 13. For example, as discussed above with respect to claim 7, neither reference teaches or suggests "means for determining the amount of light reaching the photodetector at a point in time when the indicator molecules are not being illuminated by the light source, thereby determining the amount of ambient light reaching the photodetector," as is required by claim 13.

Dependent Claims 14-20

Claims 14-20 depend from claim 13. Thus, these claims are patentable for at least the reason given above with respect to claim 13.

Independent Claim 21

Claim 21 is patentable over Kovacs in view of Striepeke because the references, considered alone or in combination, do not teach or suggest all of the features of claim 21. For example, as discussed above with respect to claim 7, neither reference teaches or suggests "means for capturing a first signal output from the photodetector system while the indicator molecules are in a fluorescent state, wherein said first signal is a function of the intensity of the light striking a photosensitive surface or surfaces of the photodetector system; and means for

capturing a second signal output from the photodetector system while the indicator molecules are not in a fluorescent state, wherein said second signal is a function of the intensity of the light striking a photosensitive surface or surfaces of the photodetector system," as is required by claim 21.

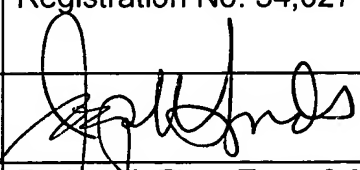
Dependent Claims 22-27

Claims 22-27 depend from claim 21. Thus, these claims are patentable for at least the reason given above with respect to claim 21.

CONCLUSION

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections, and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

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